

DISCUSSION

Fifteen Years of Changes in the County

The population of Wake County has grown tremendously since the original Wake County natural areas inventory was published in 1987 (LeGrand 1987). It isn't possible to state the population increase from 1987 to 2002, as census figures are taken only every 10 years. However, from 300,833 in 1980, to 426,311 in 1990, to 627,846 in 2000, the population is increasing nearly 50% each decade. Developed land in the county has risen from 153,100 acres in 1987 to 180,400 in 1992 to 229,300 in 1997, with an average rate of change of 20.9 acres a day over the 10-year span. In the 5-year span from 1992 to 1997, that rate increased to 26.8 acres a day of lands converted to development. Thus, lands that were formerly undeveloped, whether forested or in farmland, are often now a part of a residential development, research or industrial park, or other type of development. Most plant and animal species are presumed to have declined in the county in that 15-year period, though increases have certainly taken place for some species adapted to man's abode, such as Virginia opossum (*Didelphis virginiana*), American robin (*Turdus americanus*), and ring-billed gull (*Larus delawarensis*).

Not only has development occurred at a rapid pace, there has been a slow increase in flooded lands, from impoundments, to lakes and farm ponds, to beaver ponds. Interestingly, northern beavers (*Castor canadensis*) are increasing in the county, thanks to a restocking/restoration program by the N.C. Wildlife Resources Commission. Many streams that were free-flowing in 1987 are now partly dammed by beavers, which is a boon to waterfowl, many amphibians, and marsh plants, but a loss of habitat for certain fishes and mussels, bottomland herbaceous species, and others.

Table 1 shows the changes in significance ratings over the past 15 years for the significant sites identified in this current report. These are the ratings given to sites by the NC NHP. The 1987 ratings are taken from LeGrand (1987), the 1993 ratings from Smith et al. (1993), and the 2002 ratings from the current inventory. In quite a few cases, sites are not rated for all three years because they were newly identified in a later inventory. Also, the 1993 inventory uses Regional as the lowest significance level for sites in that inventory, as it covered nearly 20 counties. The 1987 and 2002 inventories, conducted just on Wake County, include County-level sites, and thus the significance of such sites in 1993 is inferred.

In general, one sees little overall change in significance ratings, and in some regards there is an actual increase in the number of highly ranked sites compared with 1987. However, these results can be misleading. In some cases new rare plant or animal discoveries altered (upgraded) rankings, expanded or contracted site boundaries changed ratings, and so forth. In fact, more than half of these sites are now afforded some type of protection, and their ratings may not change over time, while the rest of the county continues to deteriorate. In fact, with degradation elsewhere, ratings of significant sites might rise, even if there is no obvious change on-site, simply because there are fewer and fewer significant sites of similar character remaining on unprotected land.